

# Y Liu; Liu, Y

## List of Publications by Year in descending order

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75  
papers

4,267  
citations

117453

34  
h-index

106150

65  
g-index

75  
all docs

75  
docs citations

75  
times ranked

4853  
citing authors

#	ARTICLE	IF	CITATIONS
1	The Role of Surface Oxygen in the Growth of Large Single-Crystal Graphene on Copper. <i>Science</i> , 2013, 342, 720-723.	6.0	977
2	Mechanical properties of highly textured Cu/Ni multilayers. <i>Acta Materialia</i> , 2011, 59, 1924-1933.	3.8	202
3	Removal of stacking-fault tetrahedra by twin boundaries in nanotwinned metals. <i>Nature Communications</i> , 2013, 4, 1377.	5.8	155
4	Radiation damage in helium ion irradiated nanocrystalline Fe. <i>Journal of Nuclear Materials</i> , 2012, 425, 140-146.	1.3	154
5	Length scale-dependent deformation behavior of nanolayered Cu/Zr micropillars. <i>Acta Materialia</i> , 2012, 60, 1610-1622.	3.8	115
6	Metal-graphene interfaces in epitaxial and bulk systems: A review. <i>Progress in Materials Science</i> , 2020, 110, 100652.	16.0	114
7	Stacking fault and partial dislocation dominated strengthening mechanisms in highly textured Cu/Co multilayers. <i>International Journal of Plasticity</i> , 2013, 49, 152-163.	4.1	109
8	In situ nanoindentation study on plasticity and work hardening in aluminium with incoherent twin boundaries. <i>Nature Communications</i> , 2014, 5, 4864.	5.8	107
9	Microstructure and strengthening mechanisms in Cu/Fe multilayers. <i>Acta Materialia</i> , 2012, 60, 6312-6321.	3.8	104
10	Damage-tolerant nanotwinned metals with nanovoids under radiation environments. <i>Nature Communications</i> , 2015, 6, 7036.	5.8	97
11	High-strength Nanotwinned Al Alloys with 9R Phase. <i>Advanced Materials</i> , 2018, 30, 1704629.	11.1	93
12	Mechanical properties of crystalline Cu/Zr and crystal-amorphous Cu/Cu-Zr multilayers. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2012, 552, 392-398.	2.6	89
13	Experimentally quantifying critical stresses associated with basal slip and twinning in magnesium using micropillars. <i>Acta Materialia</i> , 2017, 135, 411-421.	3.8	87
14	Interface structures and twinning mechanisms of twins in hexagonal metals. <i>Materials Research Letters</i> , 2017, 5, 449-464.	4.1	87
15	Giant linear strain gradient with extremely low elastic energy in a perovskite nanostructure array. <i>Nature Communications</i> , 2017, 8, 15994.	5.8	82
16	Formation Mechanisms of High-density Growth Twins in Aluminum with High Stacking-Fault Energy. <i>Materials Research Letters</i> , 2013, 1, 51-60.	4.1	80
17	Enhanced radiation tolerance of ultrafine grained Fe-Cr-Ni alloy. <i>Journal of Nuclear Materials</i> , 2012, 420, 235-240.	1.3	78
18	Unusual size-dependent strengthening mechanisms in helium ion-irradiated immiscible coherent Cu/Co nanolayers. <i>Acta Materialia</i> , 2015, 84, 393-404.	3.8	75

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19	Comparisons of radiation damage in He ion and proton irradiated immiscible Ag/Ni nanolayers. Journal of Nuclear Materials, 2013, 440, 310-318.	1.3	68
20	High-velocity projectile impact induced 9R phase in ultrafine-grained aluminium. Nature Communications, 2017, 8, 1653.	5.8	66
21	Characterizing the boundary lateral to the shear direction of deformation twins in magnesium. Nature Communications, 2016, 7, 11577.	5.8	65
22	Intrinsic and extrinsic size effects on deformation in nanolayered Cu/Zr micropillars: From bulk-like to small-volume materials behavior. Acta Materialia, 2012, 60, 4054-4064.	3.8	63
23	Effect of martensitic phase transformation on the behavior of 304 austenitic stainless steel under tension. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 649, 174-183.	2.6	63
24	Synthesis and microstructure of electrodeposited and sputtered nanotwinned face-centered-cubic metals. MRS Bulletin, 2016, 41, 286-291.	1.7	60
25	Indentation of nanotwinned fcc metals: Implications for nanotwin stability. Acta Materialia, 2012, 60, 4623-4635.	3.8	48
26	Structural characteristics of  non-cozone twin-twin interactions in magnesium. Acta Materialia, 2018, 159, 65-76.	3.8	48
27	Superior tolerance of Ag/Ni multilayers against Kr ion irradiation: an <i>in situ</i> study. Philosophical Magazine, 2013, 93, 3547-3562.	0.7	47
28	Plasticity and ultra-low stress induced twin boundary migration in nanotwinned Cu by <i>in situ</i> nanoindentation studies. Applied Physics Letters, 2014, 104, .	1.5	47
29	Three-dimensional character of the deformation twin in magnesium. Nature Communications, 2019, 10, 3308.	5.8	46
30	Revealing extreme twin-boundary shear deformability in metallic nanocrystals. Science Advances, 2021, 7, eabe4758.	4.7	46
31	Anisotropic thermal conductivity and associated heat transport mechanism in roll-to-roll graphene reinforced copper matrix composites. Acta Materialia, 2020, 197, 342-354.	3.8	45
32	A new method for reliable determination of strain-rate sensitivity of low-dimensional metallic materials by using nanoindentation. Scripta Materialia, 2014, 77, 5-8.	2.6	39
33	Understanding nanoscale damage at a crack tip of multilayered metallic composites. Applied Physics Letters, 2008, 92, 161905.	1.5	36
34	A formation mechanism for ultra-thin nanotwins in highly textured Cu/Ni multilayers. Journal of Applied Physics, 2012, 111, .	1.1	36
35	Enhanced radiation tolerance in immiscible Cu/Fe multilayers with coherent and incoherent layer interfaces. Journal of Materials Research, 2015, 30, 1300-1309.	1.2	34
36	Strengthening mechanisms of Ag/Ni immiscible multilayers with fcc/fcc interface. Surface and Coatings Technology, 2013, 237, 269-275.	2.2	33

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37	Alternative misfit dislocations pattern in semi-coherent FCC {100} interfaces. <i>Acta Materialia</i> , 2018, 144, 177-186.	3.8	33
38	Thermal stability of ultrafine grained Fe-Cr-Ni alloy. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2012, 542, 64-70.	2.6	32
39	Thickness-dependent a/a domain evolution in ferroelectric PbTiO <sub>3</sub> films. <i>Acta Materialia</i> , 2017, 131, 123-130.	3.8	32
40	A phase field study focuses on the transverse propagation of deformation twinning for hexagonal-closed packed crystals. <i>International Journal of Plasticity</i> , 2016, 76, 130-146.	4.1	30
41	Quantitative damage and detwinning analysis of nanotwinned copper foil under cyclic loading. <i>Acta Materialia</i> , 2014, 81, 184-193.	3.8	29
42	Two Types of Martensitic Phase Transformations in Magnetic Shape Memory Alloys by In Situ Nanoindentation Studies. <i>Advanced Materials</i> , 2014, 26, 3893-3898.	11.1	28
43	The effect of coherent interface on strain-rate sensitivity of highly textured Cu/Ni and Cu/V multilayers. <i>Scripta Materialia</i> , 2019, 162, 33-37.	2.6	28
44	Deformation mechanisms in FCC Co dominated by high-density stacking faults. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2018, 736, 12-21.	2.6	27
45	Basic criteria for formation of growth twins in high stacking fault energy metals. <i>Applied Physics Letters</i> , 2013, 103, .	1.5	26
46	In situ studies of radiation induced crystallization in Fe/a-Y <sub>2</sub> O <sub>3</sub> nanolayers. <i>Journal of Nuclear Materials</i> , 2014, 452, 321-327.	1.3	26
47	Layer thickness dependent strain rate sensitivity of Cu/amorphous CuNb multilayer. <i>Applied Physics Letters</i> , 2017, 110, .	1.5	25
48	Synergistically enhanced interface stability by graphene assisted copper surface reconstruction. <i>Acta Materialia</i> , 2022, 226, 117638.	3.8	22
49	<i>In situ</i> Observation of Defect Annihilation in Kr Ion-Irradiated Bulk Fe/Amorphous-Fe <sub>2</sub> Zr Nanocomposite Alloy. <i>Materials Research Letters</i> , 2015, 3, 35-42.	4.1	20
50	Synthesis, Microstructure and Properties of Magnetron Sputtered Lead Zirconate Titanate (PZT) Thin Film Coatings. <i>Coatings</i> , 2021, 11, 944.	1.2	19
51	Significant enhancement in the thermal stability of nanocrystalline metals via immiscible tri-phases. <i>Scripta Materialia</i> , 2012, 67, 177-180.	2.6	16
52	Plastic deformation in nanocrystalline TiN at ultra-low stress: An in situ nanoindentation study. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2016, 650, 445-453.	2.6	16
53	In situ studies on superior thermal stability of bulk FeZr nanocomposites. <i>Acta Materialia</i> , 2015, 101, 125-135.	3.8	14
54	Measurement of Heavy Ion Irradiation Induced In-Plane Strain in Patterned Face-Centered-Cubic Metal Films: An <i>In Situ</i> Study. <i>Nano Letters</i> , 2016, 16, 7481-7489.	4.5	14

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55	In Situ Nanoindentation Studies on Detwinning and Work Hardening in Nanotwinned Monolithic Metals. <i>Jom</i> , 2016, 68, 127-135.	0.9	14
56	Enhanced defect annihilation capability of the graphene/copper interface: An in situ study. <i>Scripta Materialia</i> , 2021, 203, 114001.	2.6	14
57	Migration kinetics of twinning disconnections in nanotwinned Cu: An in situ HRTEM deformation study. <i>Scripta Materialia</i> , 2021, 194, 113621.	2.6	12
58	Quantifying elastic strain near coherent twin interface in magnesium with nanometric resolution. <i>Materials Characterization</i> , 2020, 160, 110082.	1.9	11
59	A crystal plasticity model for metal matrix composites considering thermal mismatch stress induced dislocations and twins. <i>Scientific Reports</i> , 2021, 11, 16053.	1.6	11
60	Repetitive Ultra-low Stress Induced Nanocrystallization in Amorphous Cu-Zr-Al Alloy Evidenced by in situ Nanoindentation. <i>Materials Research Letters</i> , 2014, 2, 209-216.	4.1	10
61	High Strength and Low Coercivity of Cobalt with Three-Dimensional Nanoscale Stacking Faults. <i>Nano Letters</i> , 2021, 21, 6480-6486.	4.5	9
62	Size dependent alloying and plastic deformation behaviors of Ti/Ni nano-multilayers. <i>Journal of Alloys and Compounds</i> , 2017, 727, 691-695.	2.8	8
63	Insights into the interfacial bonding strength of TiB/Ti: A first principles study. <i>Journal of Applied Physics</i> , 2019, 126, .	1.1	8
64	Hot Deformation Behavior and Processing Maps of Diamond/Cu Composites. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2018, 49, 2202-2212.	1.1	6
65	In Situ TEM Nanoindentation Studies on Stress-Induced Phase Transformations in Metallic Materials. <i>Jom</i> , 2016, 68, 226-234.	0.9	5
66	Tensile Failure Modes in Nanograined Metals with Nanotwinned Regions. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2018, 49, 5001-5014.	1.1	5
67	Influences of Interfaces on Dynamic Recrystallization and Texture Evolution During Hot Rolling of Graphene Nanoribbon/Cu Composite. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2018, 49, 6401-6415.	1.1	4
68	Beyond Indentation Hardness and Modulus: Recent Advances in Nanoindentation Techniques: Part I. <i>Jom</i> , 2017, 69, 2227-2228.	0.9	3
69	Beyond Indentation Hardness and Modulus: Recent Advances in Nanoindentation Techniques: Part II. <i>Jom</i> , 2018, 70, 485-486.	0.9	3
70	A new method to reliably determine elastic strain of various crystal structures from atomic-resolution images. <i>Scientific Reports</i> , 2019, 9, 16399.	1.6	3
71	Ferroelectric and Ferroelastic Domain Related Formation and Influential Mechanisms of Vapor Deposited Piezoelectric Thin Films. <i>Coatings</i> , 2021, 11, 1437.	1.2	3
72	Formation of misfit dislocation arrays and helium nanochannels near copper surface assisted by high-temperature graphene deposition. <i>Acta Materialia</i> , 2022, , 118134.	3.8	3

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73	Thickness-Dependent Strain Rate Sensitivity of Nanolayers via the Nanoindentation Technique. Crystals, 2018, 8, 128.	1.0	2
74	Characterization of the terrace-defect interfaces using in situ straining techniques. Journal of Materials Research, 2021, 36, 2674-2686.	1.2	1
75	Twin Transmission Across Grain Boundaries in Mg. Minerals, Metals and Materials Series, 2020, , 3-5.	0.3	0